

What is claimed is:

5 *SVB*
AL
1. A lead-free solder paste including a plurality of different types of metal powder mixed with a flux, one of the metal powders being a Sn alloy powder, another of the metal powders being selected from a Sn alloy powder, elemental Ag powder, elemental Cu powder, and elemental Sn powder, each Sn alloy powder including 0 - 8 mass % of Ag, 0 - 5 mass % of Cu, and at least 80 mass % of Sn, the plurality of metal powders having a composition when melted of 1 - 5 mass % Ag, 0.5 - 3 mass % Cu, and a remainder of Sn.

10

2. A solder paste as claimed in claim 1 wherein one of the metal powders comprises an elemental metal powder of Ag, Cu or Sn.

SVB
AL
15 3. A solder paste as claimed in claim 1 wherein the plurality of metal powders include two Sn alloy powders.

4. A solder paste as claimed in claim 3 wherein the two Sn alloy powders contain the same components as each other in different proportions.

20 5. A solder paste as claimed in claim 1 wherein the plurality of metal powders include two different Sn-Ag-Cu alloy powders.

SVB
AL
25 6. A solder paste as claimed in claim 1 wherein one of the metal powders is a Sn-Ag alloy powder and another of the metal powders is a Sn-Cu alloy powder.

7. A solder paste as claimed in claim 1 wherein the plurality of metal powders include a Sn-Ag alloy powder, a Sn-Cu alloy powder, and a Sn-Ag-Cu alloy powder.

30 8. A method of soldering a surface mounted device comprising performing reflow soldering using the solder paste of claim 1.

10. A method as claimed in claim 9 wherein the reflow temperature is at most
5 240°C.

10 12. A method as claimed in claim 8 including printing the solder paste on a printed circuit board.

add 24

Add 61